

COMPUTER SERVICE TECHNOLOGY 1

Course Code: 5320

(COURSE NAME CHANGES TO “COMPUTER REPAIR AND SERVICE” IN 2016-17)

COURSE DESCRIPTION:

The Computer Repair and Service course prepares students to perform tasks related to computer repair. Students receive instruction in the installation, operation, maintenance, and repair of computer-based technology. Instruction may also include mobile devices, peripheral devices, networking, and laptops. Laboratory activities provide instruction in installation, configuration, troubleshooting, component replacement, operating systems, and upgrades in accordance with industry certification standards.

The most current listing of standards for this course/program can be found at an industry site such as the CompTIA Web site at

<http://certification.comptia.org/getCertified/certifications/a.aspx>.

OBJECTIVE:

Given the necessary equipment, materials, and instruction, the student, on completion of the prescribed course of study, will be able to successfully accomplish the following standards.

COURSE CREDIT: 1 or 2 Carnegie units

PREREQUISITE: Based on individual schools and school districts

RECOMMENDED GRADE LEVEL: 10-12

A. SAFETY

1. Review school safety policies and procedures.
2. Review classroom safety rules and procedures.
3. Review safety procedures for using equipment in the classroom.
4. Identify major causes of work-related accidents in office environments.
5. Demonstrate safety skills in an office/work environment.

B. STUDENT ORGANIZATIONS

1. Identify the purpose and goals of a Career and Technology Student Organization (CTSO).
2. Explain how CTSOs are integral parts of specific clusters, majors, and/or courses.
3. Explain the benefits and responsibilities of being a member of a CTSO.
4. List leadership opportunities that are available to students through participation in CTSO conferences, competitions, community service, philanthropy, and other activities.
5. Explain how participation in CTSOs can promote lifelong benefits in other professional and civic organizations.

C. TECHNOLOGY KNOWLEDGE

1. Demonstrate proficiency and skills associated with the use of technologies that are common to a specific occupation.
2. Identify proper netiquette when using e-mail, social media, and other technologies for communication purposes.
3. Identify potential abuse and unethical uses of laptops, tablets, computers, and/or networks.
4. Explain the consequences of social, illegal, and unethical uses of technology (e.g., piracy; illegal downloading; licensing infringement; inappropriate uses of software, hardware, and mobile devices in the work environment).
5. Discuss legal issues and the terms of use related to copyright laws, fair use laws, and ethics pertaining to downloading of images, photographs, documents, video, sounds, music, trademarks, and other elements for personal use.
6. Describe ethical and legal practices of safeguarding the confidentiality of business-related information.
7. Describe possible threats to a laptop, tablet, computer, and/or network and methods of avoiding attacks.

D. PERSONAL QUALITIES AND EMPLOYABILITY SKILLS

1. Demonstrate punctuality.
2. Demonstrate self-representation.
3. Demonstrate work ethic.
4. Demonstrate respect.
5. Demonstrate time management.
6. Demonstrate integrity.
7. Demonstrate leadership.
8. Demonstrate teamwork and collaboration.
9. Demonstrate conflict resolution.
10. Demonstrate perseverance.
11. Demonstrate commitment.
12. Demonstrate a healthy view of competition.
13. Demonstrate a global perspective.
14. Demonstrate health and fitness.
15. Demonstrate self-direction.
16. Demonstrate lifelong learning.

E. PROFESSIONAL KNOWLEDGE

1. Demonstrate effective speaking and listening skills.
2. Demonstrate effective reading and writing skills.
3. Demonstrate mathematical reasoning.
4. Demonstrate job-specific mathematics skills.
5. Demonstrate critical-thinking and problem-solving skills.
6. Demonstrate creativity and resourcefulness.

7. Demonstrate an understanding of business ethics.
8. Demonstrate confidentiality.
9. Demonstrate an understanding of workplace structures, organizations, systems, and climates.
10. Demonstrate diversity awareness.
11. Demonstrate job acquisition and advancement skills.
12. Demonstrate task management skills.
13. Demonstrate customer-service skills.

F. PC HARDWARE (DOMAIN 1.0)

- 1.1 Configure and apply BIOS settings.
- 1.2 Differentiate between motherboard components, their purposes, and properties.
- 1.3 Compare and contrast RAM types and features.
- 1.4 Install and configure expansion cards.
- 1.5 Install and configure storage devices and use appropriate media.
- 1.6 Differentiate among various CPU types and features and select the appropriate cooling method.
- 1.7 Compare and contrast various connection interfaces and explain their purpose.
- 1.8 Install an appropriate power supply based on a given scenario.
- 1.9 Evaluate and select appropriate components for a custom configuration to meet customer specifications or needs.
- 1.10 Evaluate types and features of display devices given a scenario.
- 1.11 Identify connector types and associated cables.
- 1.12 Install and configure various peripheral devices.

G. NETWORKING (DOMAIN 2.0)

- 2.1 Identify types of network cables and connectors.
- 2.2 Categorize characteristics of connectors and cabling.
- 2.3 Explain properties and characteristics of TCP/IP.
- 2.4 Explain common TCP and UDP ports, protocols, and their purpose.
- 2.5 Compare and contrast wireless networking standards and encryption types.
- 2.6 Install, configure, and deploy a SOHO wireless/wired router using appropriate settings.
- 2.7 Compare and contrast Internet connection types and features.
- 2.8 Identify various types of networks.
- 2.9 Compare and contrast network devices, their functions, and features.
- 2.10 Use appropriate networking tools given a scenario.

H. LAPTOPS (DOMAIN 3.0)

- 3.1 Install and configure laptop hardware and components.
- 3.2 Compare and contrast the components within the display of a laptop.
- 3.3 Compare and contrast laptop features.

I. PRINTERS (DOMAIN 4.0)

- 4.1 Explain the differences between the various printer types and summarize the associated imaging process.
- 4.2 Install and configure printers given a scenario.
- 4.3 Perform printer maintenance given a scenario.

J. OPERATIONAL PROCEDURES (DOMAIN 5.0)

- 5.1 Use appropriate safety procedures given a scenario.
- 5.2 Explain environmental impacts and the purpose of environmental controls.
- 5.3 Demonstrate proper communication and professionalism given a scenario.
- 5.4 Explain the fundamentals of dealing with prohibited content/activity.